

WHAT IS CLAIMED IS:

1. An image input/output system comprising:
 - obtaining means for obtaining a print-job that includes printing-mode information and print-data;
 - analyzing means for analyzing the printing-mode information to determine whether an output mode of the print-data is a high-contrast output mode or a low-contrast output mode; and
 - generating means for generating image data according to the output mode, the image data in the high-contrast output mode being generated by calculating color-space conversion of the print-data at a high bit-depth, the image data in the low-contrast output mode being generated by calculating the color-space conversion of the print-data at a low bit-depth.
2. The image input/output system according to Claim 1, further comprising output means for outputting the image data on a medium.
3. The image input/output system according to Claim 2, wherein the generating means generates an intermediate picture object by calculating the color-space conversion of the print-data and stores the intermediate picture object, the generating means generating the image data by

calculating the color-space conversion of the stored intermediate picture object.

4. The image input/output system according to Claim 1, wherein the analyzing means comprises:

first setting means for setting the output mode to the low-contrast output mode if the printing-mode information includes a monochrome-output command; and

second setting means for setting the output mode to the high-contrast output mode if the printing-mode information includes a color-output command and the print-data includes at least one picture object for color-output.

5. The image input/output system according to Claim 1, further comprising:

setting means for setting a processing bit-depth for color-space conversion calculation; and

selecting means for selecting one of multiple contrast-output modes including the high-contrast output mode and the low-contrast output mode.

6. A printer driver which operates in a terminal connectable to the image input/output system of Claim 1 and generates the print-job output to the image input/output system, the printer driver comprising:

selection means for allowing a user to select contrast properties; and

adding means for adding the contrast properties to the print-data to generate the print-job.

7. The printer driver according to Claim 6, further comprising determining means for determining the presence of a picture object for color-output in the print-data,

wherein the adding means adds high-contrast properties to the print-data if the picture object for color-output is present in the print-data, and adds low-contrast properties to the print-data if the picture object for color-output is not present in the print-data.

8. The printer driver according to Claim 6, further comprising:

examining means for examining an output bit-depth of a picture object in the print-data; and

comparing means for comparing the output bit-depth of the picture object with the processing bit-depth of the image input/output system in the low-contrast output mode,

wherein the adding means adds low-contrast properties to the print-data if the output bit-depth of the print-data is higher than the processing bit-depth and adds low-contrast properties to the print-data if the output bit-

depth of the print-data is not higher than the processing bit-depth.

9. A printer driver which operates in a terminal connectable to the image input/output system of Claim 1 and generates the print-job output to the image input/output system, the printer driver comprising:

low-contrast setting means for setting an output mode of print-data to be output to the image input/output system to a low-contrast output mode;

high-contrast setting means for setting the output mode of print-data to be output to the image-processing device to a high-contrast output mode if monochrome output was not selected for the print-data and at least one of the picture objects included in the print-data is a color object;

low-contrast generating means for generating printing-mode information having information for low-contrast output mode if the output mode of the print-data to be output by the image input/output system is the low-contrast mode;

high-contrast generating means for generating printing-mode information having information for high-contrast output mode if the output mode of the print-data to be output by the image input/output system is the high-contrast mode; and

print generating means for generating the print-job that includes the print-data and the printing-mode

information generated by the low-contrast generating means and the high-contrast generating means.

10. An image input/output system comprising:

obtaining means for obtaining a print-job that includes print-data;

analyzing means for analyzing the print-data to determine the presence of a picture object for color-output in the print-data; and

generating means for generating image data by calculating color-space conversion for the print-data at a high bit-depth if the presence of the picture object for color-output is determined and by calculating the color-space conversion at a low bit-depth if the presence of the picture object for color-output is not determined.

11. The image input/output system according to Claim 10, wherein the generating means generates the image data without calculating the color-space conversion for the print-data if the picture object in the print-data is to be rendered by a predetermined property and color.

12. An image input/output system comprising:

obtaining means for obtaining a print-job that includes print-data;

examining means for examining an output bit-depth of a picture object in the print-data by analyzing the print-data;

comparing means for comparing the output bit-depth of the picture object with a processing bit-depth of the image input/output system in a low-contrast output mode; and

generating means for generating image data by calculating color-space conversion for the print-data at a low bit-depth when the output bit-depth of the picture object is lower than the processing bit-depth of the image input/output system in the low-contrast output mode.

13. An image-processing method comprising:

obtaining a print-job which includes printing-mode information and print-data;

analyzing the printing-mode information to determine whether an output mode of the print-data is a high-contrast output mode or a low-contrast output mode;

if the output mode of the print-data is the high-contrast output mode, generating image data by calculating color-space conversion of the print-data at a high bit-depth; and

if the output mode of the print-data is the low-contrast output mode, generating the image data by calculating the color-space conversion of the print-data at

a low bit-depth.

14. The method according to Claim 13, wherein the print-data includes contrast properties selected by a user.

15. A method for generating a print-job, comprising:
setting an output mode of print-data to a low-contrast output mode, the print-data being output by an image input/output system;

generating printing-mode information having information for the low-contrast output mode if monochrome output is selected for a picture object of the print-data to be output by the image input/output system;

generating printing-mode information having information for the high-contrast output mode if color output is selected for picture objects to be output by the image input/output system, and if at least one of the picture objects included in the print-data is a color object; and

generating the print-job that includes the printing-mode information and the print-data.

16. A program provided in a computer comprising:
an obtaining procedure for obtaining a print-job that includes printing-mode information and print-data;
an analyzing procedure for analyzing the printing-mode

information to determine whether an output mode of the print-data is a high-contrast output mode or a low-contrast output mode;

a generating procedure for generating image data according to the determined output mode, the image data in the high-contrast output mode being generated by calculating color-space conversion of the print-data at a high bit-depth, the image data in the low-contrast output mode being generated by calculating the color-space conversion of the print-data at a low bit-depth; and

an output procedure for outputting the image data.

17. A recording medium which is readable by a computer and stores the program according to Claim 16.